

EXPRESS MAIL LABEL NO.: EL814454785US

ABSTRACT OF THE DISCLOSURE

**INTEGRATED CIRCUIT HAVING PHOTODIODE DEVICE
AND ASSOCIATED FABRICATION PROCESS**

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An integrated circuit is provided that includes a substrate incorporating a semiconductor photodiode device having a p-n junction. The photodiode device includes at least one capacitive trench buried in the substrate and connected in parallel with the junction. In a preferred embodiment, the substrate is formed from silicon, and the capacitive trench includes an internal doped silicon region partially enveloped by an insulating wall that laterally separates the internal region from the substrate. Also provided is a method for fabricating an integrated circuit including a substrate that incorporates a semiconductor photodiode device having a p-n junction.

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210-X01-030